

CLAIMS

What is claimed is:

1. An expandable intervertebral implant comprising:

a lower body having an inferior and superior surface, the superior surface having a
5 wall defining a recessed channel, and the wall having a hole defined therethrough;

an upper body having an inferior and superior surface, the inferior surface having at
an angled projection extending downward into the recessed channel of the lower body;

a joint insert disposed within the recessed channel of the lower body and having an
inferior and superior surface, the superior surface having an angled projection extending
10 upward and in communication with the angled projection of the upper body; and

an expansion device capable of being inserted through the hole in the lower body
such that upon insertion, the angled projection of the joint insert slidingly engages the angled
projection of the upper body.

2. The expandable intervertebral implant of claim 1, wherein the lower body further comprises a
15 plurality of holes defined through the wall defining the recessed channel, and a plurality of expansion
devices are capable of being inserted through the plurality of holes.

3. The expandable intervertebral implant of claim 1, wherein the upper body further comprises a
plurality of angled projections extending downward into the recessed channel, and the joint insert
further comprises a plurality of angled projections extending upward and in communication with the
20 plurality of angled projections of the upper body.

4. The expandable intervertebral implant of claim 1, wherein the upper body and the lower body are coupled.
5. The expandable intervertebral implant of claim 4, wherein the upper and lower bodies are couple via a captive peg.
- 5 6. The expandable intervertebral implant of claim 5, wherein the captive peg also secures the joint insert and allows rotation of the joint insert relative to the captive peg.
7. The expandable intervertebral implant of claim 1, wherein the superior surface of the upper body and the inferior surface of the lower body further comprises an osteoconductive scaffolding into which bone may grow.
- 10 8. The expandable intervertebral implant of claim 1, wherein the upper body and the lower body have substantially similar shapes.
9. The expandable intervertebral implant of claim 8, wherein the superior surface of the upper body and the superior surface of the lower body are substantially flat.
10. The expandable intervertebral implant of claim 1, wherein the lower body further comprises a
- 15 a securing member coupled to the wall around the perimeter of the lower body and capable of rotating into a substantially perpendicular position, the securing member having a hole defined therethrough and capable of being fixedly attached to an adjacent vertebral body.
11. An artificial facet joint comprising:
- an upper and lower multi-axial pedicle screw, both having a lockable head having a
- 20 hole defined therethrough, the lockable head comprising a rod holding device that can be inserted into the lockable head, the rod holding device having a hole defined therethrough

and substantially aligned with the hole defined through the lockable head, and a set screw that is engaged into the lockable head such that the rod holding device transfers force from the set screw to the lockable head; and

a rod having a central rod portion and two washer-type heads on each end of the central rod portion, the central rod portion slidingly positioned through the hole in the rod holding device such that the rod is allowed to translate and rotate within the rod holding device after the set screw has been engaged.

12. An artificial facet joint comprising:

an upper and lower pedicle screw having a threaded bottom end and a post-type head;

and

a plate having an upper end with a hole defined through and a lower end with a hole defined therethrough, each hole having an elongated shape, the plate being disposed above the upper and lower pedicle screws such that the post-type heads traverse each hole in the plate.

13. The artificial facet joint of claim 11, further comprising a cushioning material located within each hole and around the post-type heads.

14. The artificial facet joint of claim 11, wherein the post-type heads further comprise a locking device to prevent dislocation of the plate from the post-type heads.